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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,254	04/24/2001	M. Kivanc Mihcak	MS1-645US	7356
22801	7590	03/08/2005	EXAMINER	
LEE & HAYES PLLC 421 W RIVERSIDE AVENUE SUITE 500 SPOKANE, WA 99201			DINH, MINH	
			ART UNIT	PAPER NUMBER
			2132	

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Notice of Allowability**

Application No.

09/843,254

Examiner

Minh Dinh

Applicant(s)

MIHCAK ET AL.

Art Unit

2132

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_\_.
2. ☒ The allowed claim(s) is/are 11-13, 15-19 and 37.
3. ☒ The drawings filed on 24 April 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

### **DETAILED ACTION**

1. This action is supplemental to the previous Examiner's Amendment and is provided so that the amendment as shown below can be properly entered.

### **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Kasey Christie on 10/28/04. The application has been amended as follows:

- The Specification has been amended.
- Claims 1-10, 14 and 20-36 have been cancelled; claims 11 and 15 have been amended; and claim 37 has been added.

**CLAIMS:**

Claims 1-10 are NON-ELECTED and, consequently, CANCELED herein.

11. (CURRENTLY AMENDED) A computer-implemented method for hashing a digital signal, comprising:

transforming the digital signal into a digital signal transform;

randomly dividing the digital signal transform into multiple chunks, each chunk containing signal data, wherein the dividing is carried out recursively to form hierarchical levels of overlapping chunks;

averaging, for each of the chunks, the signal data to produce corresponding chunk averages;

generating, based in part on the chunk averages, an exponential distribution having multiple distinct quantization levels;

randomly rounding each of the chunk averages to one of the quantization levels to produce rounded values; and

hashing a composite of the rounded values.

12. (ORIGINAL) A computer-implemented method as recited in claim 11, wherein the digital signals are digital audio signals.

13. (ORIGINAL) A computer-implemented method as recited in claim 11, wherein the transforming is performed according to a MCLT technique.

14. (CANCELED)

15. (CURRENTLY AMENDED) A computer-implemented method as recited in claim 11, wherein the averaging comprises computing a variance of the signal pixel data in cases where the chunk average is approximately zero.

16. (ORIGINAL) A computer-implemented method as recited in claim 11, wherein the hashing comprises processing the rounded values to produce an intermediate hash value such that for perceptually distinct digital signals, the intermediate hash values differ approximately 60% of the time and for perceptually same digital signals, the intermediate hash values agree in all but approximately 20% of the time.

17. (ORIGINAL) A computer-implemented method as recited in claim 11, wherein the hashing comprises processing the rounded values using a Reed-Müller error correction code decoder.

18. (ORIGINAL) A computer-implemented method as recited in claim 11, wherein the hashing comprises processing the rounded values using a Reed-Müller error correction code decoder with an exponential pseudo-random norm.

19. (ORIGINAL) A computer-implemented method as recited in claim 11, wherein the hashing produces an intermediate hash value, further comprising reducing a size of the intermediate hash value via an error correction process.

Claims 20-36 are **NON-ELECTED** and, consequently, **CANCELED** herein.

37. (NEW) A computer-implemented method as recited in claim 11, wherein the digital signals are selected from a group consisting of digital audio signals, digital video signals, digital music signals, digital image signals, and digital multimedia signals.

### **SPECIFICATION AMENDMENTS**

Please replace lines 14-18 on page 9, with the following text:

- U.S. Patent Application Serial No. 09/843,234, entitled "Robust Recognizer of Perceptually Similar Content" filed on April 24, 2001;
- U.S. Patent Application Serial No. 09/843,279, entitled "Derivation and Quantization of Robust Non-Local Characteristics for Blind Watermarking" filed on April 24, 2001;

Please replace lines 22-24 on page 17, with the following text:

For more information on generating intermediate hash values, see U.S. Patent Application Serial No. 09/843,234, entitled "Robust Recognizer of Perceptually Similar Content" filed on April 24, 2001.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Dinh whose telephone number is 571-272-3802. The examiner can normally be reached on Mon-Fri: 10:00am-6:30pm.

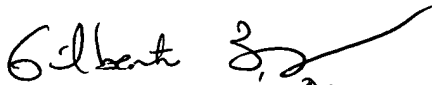
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MD

Minh Dinh  
Examiner  
Art Unit 2132

MD  
3/3/05

  
GILBERTO BARRON Jr.  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100